

ABSTRACT

A device for counting and measuring particles provides an analysis of the particle characteristics without the use of light scattering collection principles and includes a processing system 27, comprising control subsystem 13, an analog-digital subsystem 14 and a light detecting system 11, providing particle direct detection for the particle counting and measuring by analysis of the different light beam intensities, created by obstructions as result of intersection a particle flow along axis 3 with a light beam along axis 2 inside the light detecting system 11 in the area of a light detection means 4, placed on the light beam axis 2.

The light beam intensity analysis is provided by the timing processing of the different duration digital pulses converted of the appropriate amplified detected signals. The different duration of the detected signals and the appropriate digital pulses is a result of the intersection of the light beam by the different size particles. The timing processing is provided by the digital pulse strobing, where the complete procesed signals are presented by the strobe pulse packages within different quantity of the strobe pulses, which characterizes the particle size and the quantity of the identical packages characterizes the quantity of the particles with an appropriate identical size.